

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
30 March 2006 (30.03.2006)

PCT

(10) International Publication Number  
**WO 2006/033668 A2**

(51) International Patent Classification: Not classified

(21) International Application Number:  
PCT/US2005/011821

(22) International Filing Date: 7 April 2005 (07.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/561,110 9 April 2004 (09.04.2004) US

(71) Applicant (for all designated States except US): GENENCOR INTERNATIONAL, INC. [US/US]; 925 Page Mill Road, Palo Alto, California 94304 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WEYLER, Walter [US/US]; 252 Theresa Street, San Francisco, California 94112 (US). HSU, Amy, Kuang-Hua [US/US]; 528 Keelson Circle, Redwood City, California 94065 (US).

(74) Agent: MACKNIGHT, Kamrin, T.; Genencor International, INC., 925 Page Mill Road, Palo Alto, California 94304 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

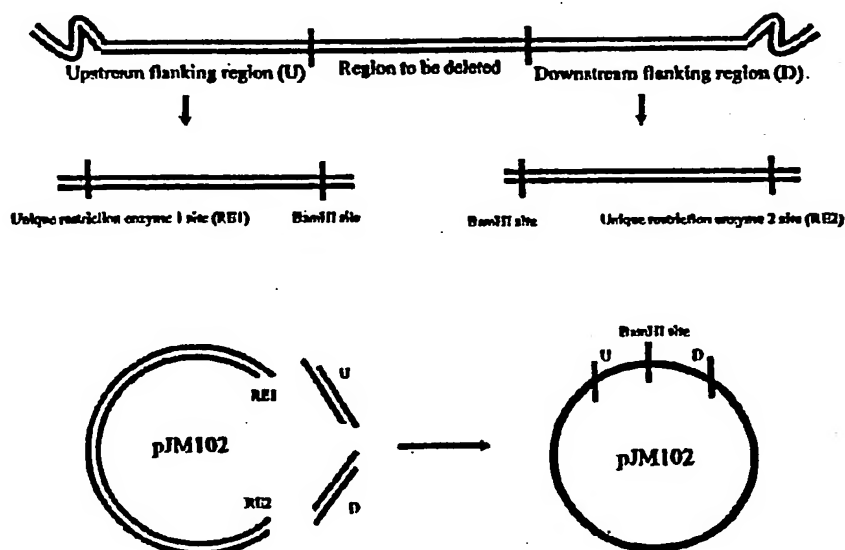
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PCKA MODIFICATIONS AND ENHANCED PROTEIN EXPRESSION IN BACILLUS



(57) Abstract: The present invention provides cells that have been genetically manipulated to have an altered capacity to produce expressed proteins, wherein the pckA gene has been modified or deleted. In particular, the present invention relates to Gram-positive microorganisms, such as Bacillus species having enhanced expression of a protein of interest, wherein one or more chromosomal genes have been modified and/or inactivated (e.g., pckA), and preferably wherein one or more chromosomal genes (e.g., pckA) have been modified and/or deleted from the Bacillus chromosome. In some further embodiments, one or more indigenous chromosomal regions have been modified and/or deleted from a corresponding wild-type Bacillus host chromosome.